To: CN=Karen Schwinn/OU=R9/O=USEPA/C=US@EPA@EPA;CN=Tom Hagler/OU=R9/O=USEPA/C=US@EPA;CN=Erin Foresman/OU=R9/O=USEPA/C=US@EPA@EPA[]; N=Tom Hagler/OU=R9/O=USEPA/C=US@EPA;CN=Erin Foresman/OU=R9/O=USEPA/C=US@EPA@EPA[]; N=Erin Foresman/OU=R9/O=USEPA/C=US@EPA@EPA[]
Cc: []
From: CN=Tim Vendlinski/OU=R9/O=USEPA/C=US
Sent: Mon 5/14/2012 8:33:12 PM
Subject: comments from USGS on BDCP Conservation Measure #12 (LICD on subsided islands of the western Delta)
BDCP_ICF_MeHg memo_05.11.12 TKraus comments.doc
[TK1]
icfi.com
mailto:tkraus@usgs.gov
tkraus@usgs.gov
Vendlinski.Tim@epamail.epa.gov
EHealy@icfi.com
jafleck@usgs.gov
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http://www.epa.gov/region9/water/watershed/sfbay-delta/index.html
vendlinski.tim@epa.gov<
EHealy@icfi.com
CEarle@icfi.com
ehealy@icfi.com
icfi.com
[TK1]
(embedded image)

FYI, the "memo" is just internal to ICF; from Ms. Healy to David Zippin.

----- Forwarded by Tim Vendlinski/R9/USEPA/US on 05/14/2012 01:30 PM -----

From: Jacob A Fleck <jafleck@usgs.gov>
To: "Healy, Erin" <EHealy@icfi.com>
Cc: Tamara Kraus <tkraus@usgs.gov>, Tim Vendlinski/R9/USEPA/US@EPA
Date: 05/14/2012 10:22 AM
Subject: RE: LICD and BDCP

Hi all,

i support Tim and Tamara's comments, with my earlier caveats.

it is important to note again that the deep subsidence of the central and western Delta requires the interim step of rebuilding the surface. the idea of "filling the area to the required grade" via engineering means has been extensively researched and determined infeasible for a number of reasons. in short, the deeply subsided islands still have substantial depths of organic peat soils underlying the surface oxidized soils.. these soils are low density and maintain their elevation only through water buoyancy. adding high density, mineral fill has 3 problems: 1) the amount of fill required to fill these islands is beyond the available materials at reasonable cost, 2) the mineral soils/fill will merely compress the peat soils beneath requiring even more fill than the current accomodation space, 3) the infrastructure and fuel to move the materials for fill are not available and would require major investments just to bring the fill in even is 1 and 2 were not issues. Alternatives have been considered such as hauling rice straw from the Central

Valley to use low density, organic materials as fill but those too were determined as non-ideal based on the infrastructure issues and the unknowns about what effect those materials would have on the water quality.

cheers,
Jacob

From: "Healy, Erin" <EHealy@icfi.com>
To: Tamara Kraus <tkraus@usgs.gov>, Tim Vendlinski <Vendlinski.Tim@epamail.epa.gov>
Cc: Jacob A Fleck <jafleck@usgs.gov>
Date: 05/14/2012 08:45 AM
Subject: RE: LICD and BDCP

Thank you for your comments Tamara and Tim,

Tamara, could you send me a copy of the paper you added the citation for?

I have one question on Tamara's comment below. In restoration areas, the idea is to restore unhindered hydrology. If there is a wetland cell for settling, it would need some residence time, which would not be possible under a normal tidal system where there is ebb and flow of water, not static. Could you explain?

As currently applied in pilot testing, LICD requires a treatment cell for sedimentation and retention of the floc. This design would preclude tidal systems which require the natural ebb and flow of water. [TK1] However, in the subsided islands of the Delta, a managed wetland with rapidly accreting sediment may be considered as in interim step to increase the elevation to allow a tidal regime. The alternative would be filling the area to the required grade.

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From: Tamara Kraus [mailto:tkraus@usgs.gov]
Sent: Friday, May 11, 2012 7:45 PM
To: Tim Vendlinski; Healy, Erin
Cc: Jacob A Fleck
Subject: Re: LICD and BDCP

Hi Erin and Tim

I also added a few comments for you to consider - and some explanation of a few details you might find useful.

One of the "unpublished" references that you referred to just was accepted, so I added that here. The formatted, proofed paper should be available online soon. If you want to take a look at the abstract I provided the link.

Please contact me if you have any questions,

Tamara

*****

Tamara Kraus
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From: Tim Vendlinski <Vendlinski.Tim@epamail.epa.gov>
To: "Healy, Erin" <EHealy@icfi.com>
Cc: Jacob A Fleck <jafleck@usgs.gov>, Tamara Kraus <tkraus@usgs.gov>
Date: 05/11/2012 12:58 PM
Subject: Re: LICD and BDCP

Hi Erin:
I made a few comments for you to consider, and I'm sending your memo to Jacob and Tamara for their review.
Thanks, Tim

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From: "Healy, Erin" <EHealy@icfi.com>
To: Tim Vendlinski/R9/USEPA/US@EPA
Cc: "Earle, Chris" <CEarle@icfi.com>
Date: 05/11/2012 07:48 AM
Subject: LICD and BDCP

Hi Tim

We went ahead and developed the attached memo for primarily internal review and discussion about how and if LICD could be integrated into the BDCP. I've integrated the responses from both you and Jacob Fleck to my earlier questions.

Please let me know if you have any comments, and I'll keep you posted on any progress or changes.

Thanks for your help
Erin

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[attachment "Methylmercury-issues_120510.doc" deleted by Tim Vendlinski/R9/USEPA/US] [attachment "BDCP_ICF_MeHg memo_05.11.12.doc" deleted by Tamara Kraus/WRD/USGS/DOI]

[TK1]This is technically not true – the "coagulation step (coagulant addition and floc formation) is actually being done inline in a PVC pipe – with some addition floc formation and then settling happening in the wetland cell.

If research shows that the metal-OM-Hg complex that forms is not of environmental concern, theorectically the coagulated water could be discharged into a tidaly system.

If the floc material is determined to be of environmental concern, there is the option of disposing it off-site, which is what drinking water treatment plants do. In the case of the LICD project the idea is the floc itself will help build up land surface elevations in the wetlands.